



[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2007-27023; Directorate Identifier 98-ANE-47-AD]

RIN 2120-AA64

Airworthiness Directives; Pratt & Whitney JT9D Series Turbofan Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: We propose to supersede an existing airworthiness directive (AD) that applies to all Pratt & Whitney (PW) JT9D series turbofan engines. The existing AD currently requires revisions to the Airworthiness Limitations Section (ALS) of the manufacturer's Instructions for Continued Airworthiness (ICA) to include required enhanced inspection of selected critical life-limited parts at each piece-part opportunity. Since we issued that AD, PW has added mandatory inspections for certain critical life-limited parts. This proposed AD would require additional revisions to the JT9D series engines ALS sections of the manufacturer's ICA. This proposed AD results from the need to require enhanced inspection of selected critical life-limited parts of JT9D series engines. We are proposing this AD to prevent critical life-limited rotating engine part failure, which could result in an uncontained engine failure and damage to the airplane.

DATES: We must receive comments on this proposed AD by [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.

- Fax: 202-493-2251.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.
- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

Examining the AD Docket

You may examine the AD docket on the Internet at <http://www.regulations.gov>; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Office (phone: 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: Stephen Sheely, Aerospace Engineer, Engine & Propeller Directorate, FAA, 12 New England Executive Park, Burlington, MA 01803; phone: 781-238-7750; fax: 781-238-7199; e-mail: stephen.k.sheely@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

We invite you to send any written relevant data, views, or arguments about this proposed AD. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2007-27023; Directorate Identifier 98-ANE-47-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this proposed AD. We will consider all comments received by the closing date and may amend this proposed AD because of those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this proposed AD.

Discussion

On March 1, 2007, we issued AD 2007-05-17, Amendment 39-14978 (72 FR 10350, March 8, 2007), for all PW JT9D series turbofan engines. That AD requires revisions to the ALS of the manufacturer's ICA to include required enhanced inspection of selected critical life-limited parts at each piece-part opportunity. We issued that AD to prevent critical life-limited rotating engine part failure, which could result in an uncontained engine failure and damage to the airplane.

Actions Since Existing AD (72 FR 10350, March 8, 2007) Was Issued

Since we issued AD 2007-05-17, an FAA study of in-service events involving uncontained failures of critical rotating engine parts has indicated the need for additional mandatory inspections. The mandatory inspections are needed to identify those critical rotating parts with conditions which, if allowed to continue in service, could result in uncontained engine failures. This proposal would require revisions to the JT9D series engines ALS sections of the manufacturer's manuals and an air carrier's approved continuous airworthiness maintenance program to incorporate additional inspection requirements.

FAA's Determination

We are proposing this AD because we evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

Proposed AD Requirements

This proposed AD would retain all of the requirements of AD 2007-05-17 (72 FR 10350, March 8, 2007). This proposed AD would supersede AD 2007-05-17 to require the following additional inspections:

- Adding eddy current inspections (ECIs) for web cooling holes in high-pressure turbine (HPT) stage 1 disks installed in engine models JT9D-3A, -7, -7A, -7AH, -7F, -7H, -7J, -20, and -20J engines;
- Adding ECIs for web cooling holes and tierod holes in HPT stage 2 disks installed in JT9D-59A and -70A engines;
- Adding ECIs for web cooling holes and tierod holes in HPT stage 2 disks installed in JT9D-7Q and -7Q3 engines;
- Adding ECIs for web cooling holes in HPT stage 2 disks, and for fan hub slots, installed in JT9D-7R4 engines; and
- Adding ECIs for web cooling holes and tierod holes in HPT stage 2 disks installed in JT9D-7R4D, -7R4D1, -7R4E, and -7R4E1 engines.

This proposed AD would also add the Engine Manual Inspection Task and Sub Task Number references for these inspections.

Identifying the Part Nomenclatures and Inspections Added

For reference, the part nomenclatures and inspections added to the table in the compliance section of this proposed AD are identified by two asterisks (**) that precede the part nomenclature.

Costs of Compliance

We estimate that 438 JT9D series engines are installed on airplanes of U.S. registry and would be affected by this proposed AD. We also estimate that about 4 work hours per engine are needed to perform the proposed actions, and that the average labor rate is \$85 per work hour. Since this is an added inspection requirement that will be part

of the normal maintenance cycle, no additional parts costs are involved. Based on these figures, we estimate the total cost of the proposed AD to U.S. operators to be \$148,920.

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, Section 106, describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701, "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

We have determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that the proposed regulation:

- (1) Is not a "significant regulatory action" under Executive Order 12866,
- (2) Is not a "significant rule" under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),
- (3) Will not affect intrastate aviation in Alaska, and

(4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by removing airworthiness directive (AD) 2007-05-17, Amendment 39-14978 (72 FR 10350, March 8, 2007), and adding the following new AD:

Pratt & Whitney: Docket No. FAA-2007-27023; Directorate Identifier 98-ANE-47-AD.

(a) Comments Due Date

The FAA must receive comments on this AD action by [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

This AD supersedes AD 2007-05-17, Amendment 39-14978 (72 FR 10350, March 8, 2007).

(c) Applicability

This AD applies to Pratt & Whitney (PW) JT9D-3A, -7, -7A, -7H, -7AH, -7F, -7J, -20J, -59A, -70A, -7Q, -7Q3, -7R4D, -7R4D1, -7R4E, -7R4E1, -7R4E4, -7R4G2, and -7R4H1 series turbofan engines.

(d) Unsafe Condition

This AD results from the need to require enhanced inspection of selected critical life-limited parts of JT9D series turbofan engines. We are issuing this AD to prevent critical life-limited rotating engine part failure, which could result in an uncontained engine failure and damage to the airplane.

(e) Compliance

Comply with this AD within the compliance times specified, unless already done.

(f) Inspections

Within the next 30 days after the effective date of this AD, add the following section to the Airworthiness Limitations Section (ALS) of your copy of the manufacturer's Instructions for Continued Airworthiness (ICA) and, for air carrier operations, to your continuous airworthiness air carrier maintenance program:

“MANDATORY INSPECTIONS

(1) Inspect the following life-limited parts at each piece-part opportunity in accordance with the instructions provided in the applicable manual provisions:

Engine Model	Engine Manual Part Number (P/N)	Part Nomenclature	Inspect per Manual Section	Inspection/ Check
3A/7/7A/7AH/7F/7H/7J/20/20J	*646028 (or the equivalent customized versions, 770407 and 770408)	All Fan Hubs	72-31-04	Inspection-02
		All HPC Stage 5 – 15 Disks and Rear Compressor Drive Turbine Shafts	72-35-00	Inspection-03
		All HPT Stage 1-2 Disks and Hubs	72-51-00	Inspection-03
		**All HPT Stage 1 Disk Web Cooling Holes	72-51-02	Inspection -06
		All HPT Stage 2 Disk Web Tie-rod Holes	72-51-02	Inspection-05

Engine Model	Engine Manual Part Number (P/N)	Part Nomenclature	Inspect per Manual Section	Inspection/ Check
		All LPT Stage 3 – 6 Disks and Hubs	72-52-00	Inspection- 03
59A/70A	754459	All Fan Hubs	72-31-00	Check-00
		All HPC Stage 5 – 15 Disks and Rear Compressor Drive Turbine Shafts	72-35-00	Check-00
		All HPT Stage 1-2 Disks and Hubs	72-51-00	Check-03
		All HPT Stage 1 Disk Web Cooling Holes	72-51-02	Check-03
		**All HPT Stage 2 Disk Tierod and Web Cooling Holes	72-51-02	Check-04
		All LPT Stage 3 – 6 Disks and Hubs	72-52-00	Check-03
7Q/7Q3	777210	All Fan Hubs	72-31-00	Inspection- 03
		All HPC Stage 5 – 15 Disks and Rear Compressor Drive Turbine Shafts	72-35-00	Inspection- 03
		All HPT Stage 1-2 Disks and Hubs	72-51-00	Inspection- 03
		All HPT Stage 1 Disk Web Cooling Holes	72-51-06	Inspection- 03
		**All HPT Stage 2 Disk Tierod and Web Cooling Holes	72-51-07	Inspection- 03
		All LPT Stage 3 – 6 Disks and Hubs	72-52-00	Inspection- 03
7R4 ALL	785058, 785059, and 789328	All Fan Hubs	72-31-00	Inspection/ Check-03
		**All Fan Hub Slots	72-31-01	Inspection/ Check-02

Engine Model	Engine Manual Part Number (P/N)	Part Nomenclature	Inspect per Manual Section	Inspection/ Check
		All HPC Stage 5 – 15 Disks and Rear Compressor Drive Turbine Shafts	72-35-00	Inspection/ Check 03
		All HPT Stage 1-2 Disks and Hubs	72-51-00	Inspection/ Check 03
		All LPT Stage 3 – 6 Disks and Hubs	72-52-00	Inspection/ Check 03
		**All HPT Stage 2 Disk Tierod and Web Cooling Holes	72-51-07	Inspection/ Check-02
7R4D/D1/E/E1	785058 and 785059	All HPT Stage 1 Disk Web Cooling Holes	72-51-06	Inspection/ Check-02
		**All HPT Stage 2 Disk Tierod and Web Cooling Holes	72-51-07	Inspection/ Check-02

* P/N 770407 and 770408 are customized versions of P/N 646028 engine manual.

** Two asterisks identify the part nomenclatures and inspections added to the table.

(2) For the purposes of these mandatory inspections, piece-part opportunity means:

(i) The part is considered completely disassembled when disassembly is in accordance with the disassembly instructions in the manufacturer's engine shop manual; and

(ii) The part has accumulated more than 100 cycles-in-service since the last piece-part opportunity inspection, provided that the part was not damaged or related to the cause for its removal from the engine."

(g) Except as provided in paragraph (h) of this AD, and notwithstanding contrary provisions in section 43.16 of the Federal Aviation Regulations (14 CFR 43.16), these mandatory inspections shall be performed only in accordance with the ALS of the manufacturer's ICA.

(h) Alternative Methods of Compliance (AMOC)

(1) You must perform these mandatory inspections using the ALS of the ICA and the applicable Engine Manual, unless you receive approval to use an AMOC under paragraph (h)(2) of this AD. Section 43.16 of the Federal Aviation Regulations (14 CFR 43.16) may not be used to approve alternative methods of compliance or adjustments to the times in which these inspections must be performed.

(2) The Manager, Engine Certification Office, has the authority to approve alternative methods of compliance for this AD, if requested using the procedures found in 14 CFR 39.19.

(i) Maintaining Records of the Mandatory Inspections

(1) You have met the requirements of this AD when you revise your copy of the ALS of the manufacturer's ICA as specified in paragraph (f) of this AD. For air carriers operating under part 121 of the Federal Aviation Regulations (14 CFR part 121), you have met the requirements of this AD when you modify your continuous airworthiness air carrier maintenance program as specified in paragraph (f) of this AD. You do not need to record each piece-part inspection as compliance to this AD, but you must maintain records of those inspections according to the regulations governing your operation. For air carriers operating under part 121, you may use either the system established to comply with section 121.369 or an alternative accepted by your principal maintenance inspector if that alternative:

(i) Includes a method for preserving and retrieving the records of the inspections resulting from this AD;

(ii) Meets the requirements of section 121.369(c); and

(iii) Maintains the records either indefinitely or until the work is repeated.

(2) These record keeping requirements apply only to the records used to document the mandatory inspections required as a result of revising the ALS of the manufacturer's ICA as specified in paragraph (f) of this AD. These record keeping requirements do not

alter or amend the record keeping requirements for any other AD or regulatory requirement.

(j) Related Information

For more information about this AD, contact Stephen Sheely, Aerospace Engineer, Engine & Propeller Directorate, FAA, 12 New England Executive Park, Burlington, MA 01803; phone: 781-238-7750; fax: 781-238-7199; e-mail: stephen.k.sheely@faa.gov.

Issued in Burlington, Massachusetts, on November 15, 2011.

Peter A. White,
Manager, Engine & Propeller Directorate,
Aircraft Certification Service.

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